State of Ohio Environmental Protection Agency

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September 17, 2010

Notice of Issuance of a Limited Environmental Review and Final Finding of No Significant Impact To All Interested Citizens, Organizations and Government Agencies

Village of Canal Winchester

Infiltration and Inflow (I/I) Removal, Phase I
CS390222-0007
Winchester Village Force Main Replacement/Relocation
CS390222-0003
Water Reclamation Facility Influent Upgrades
CS390222-0006

The purpose of this notice is to advise the public that Ohio EPA has reviewed the referenced projects and finds that neither an Environmental Assessment (EA) nor a Supplemental Study (SS) is required to complete the environmental review of the projects. Instead, these projects meet the criteria for a Limited Environmental Review (LER). These criteria are summarized below in this document and in the attached LER.

The I/I Removal, Phase I project consists of lining approximately 9,700 feet of 1940's era leaking and deteriorating clay sewer mains, a deteriorating 30 inch concrete trunk main, and 28 manholes in the area with extremely high groundwater. The relining will be accomplished using a trenchless technology called "cured in place pipe". The Winchester Village Force Main Replacement/Relocation project will replace approximately 1383 feet of faulty, degraded force main with a new shorter force main of about 500 – 700 feet long, and connect to a different lift station tributary. The majority of the new force main will be bored underground, while a very minor segment will be open cut in an already developed area along a street. The Water Reclamation Facility (WRF) Influent Upgrades project will replace worn, obsolete and undependable equipment in the WRF Influent Structure.

The LER was completed for these projects as they will not individually, cumulatively over time or in conjunction with other Federal, State, local, or private actions have a significant adverse effect on the quality of the human environment. Consequently, a Finding of No Significant Impact can be issued now for these projects.

The Water Pollution Control Loan Fund (WPCLF) program requires the inclusion of environmental factors in the decision-making process for project approval. Ohio EPA has done this by incorporating a detailed analysis of the environmental effects of the proposed actions in the review and approval process.

Environmental information was developed as part of the facilities planning process. A subsequent review by this Agency has found that the proposed actions do not require the preparation of an EA or an SS.

Our environmental review concluded that because the proposed projects are limited in scope and meet all applicable criteria, a Limited Environmental Review is warranted. Specifically, the projects are primarily for rehabilitation of existing facilities within a sewered community. Furthermore, the proposed projects:

- have no significant environmental effect;
- do not require extensive specific impact mitigation;
- have no effect on high value environmental resources;
- are cost effective;
- are not a controversial action;
- do not create a new, or relocate an existing discharge to surface or ground waters;
- will not result in substantial increases in the volume of discharge or the loading of pollutants from an existing source or from new facilities to receiving waters; and
- will not provide capacity to serve a population substantially greater than the existing population.

A map depicting the locations of the projects is included as part of the LER. The LER presents information on the proposed projects, the costs, and the basis for our decision. Further information can be obtained by calling or writing the contact person listed on the back of the LER.

Upon issuance of this determination, loan awards may proceed without being subject to further environmental review or public comment, unless information is provided which determines that environmental conditions for the proposed projects have changed significantly.

Sincerely,

Gregory H. Smith, Chief
Division of Environmental &
Financial Assistance

GHS/CB/SM

Attachment

Limited Environmental Review

A. Project Identification

Name: Village of Canal Winchester:

1. Infiltration and Inflow (I/I) Removal, Phase I
2. Winchester Village Force Main Replacement/Relocation
3. Water Reclamation Facility Influent Upgrades

Address: Matt Peoples, Director of Public Works
Village of Canal Winchester
36 S. High Street
Canal Winchester, Ohio 43110

WPCLF No.:
1. I/I Removal, Phase I: CS390222-0007
2. Winchester Village Force Main Replacement/Relocation: CS390222-0003
3. Water Reclamation Facility Influent Upgrades: CS390222-0006

B. Background

The Village of Canal Winchester provides treatment of domestic and commercial/industrial wastewater discharges collected through a network of gravity sewers, pumping stations and pressure mains. This treatment is performed at a Water Reclamation Facility (WRF). The WRF collects and treats wastewater generated by residential and commercial customers from the Village of Canal Winchester, the Village of Lithopolis and portions of the City of Pickerington.

The wastewater system consists of two basic components: the collection system and treatment plant (WRF). The WRF has a capacity of 2.5 million gallons per day (mgd) for wastewater treatment. The collection system consists of approximately 55.4 miles of gravity sanitary sewer ranging in size from 8 to 36-inch in diameter, 4.81 miles of sanitary force main, 1109 manholes, and 11 sanitary lift stations.

The Village has inventoried the current collection system and has identified several recommended improvements necessary for maintaining the existing wastewater system infrastructure. The three projects referenced above are included in the recommended improvements. Canal Winchester has implemented an I/I reduction program to prevent wet-weather bypasses and overflows from the WRF and from the sanitary collection system.[1] This program includes the installation of watertight manhole lids or dish inserts, manhole inspections, smoke testing, flow metering, jet-cleaning, and internal video inspection and repairs. In 2004, a 1,900 foot section of 10-inch and 15-inch diameter sewer was

[1] Infiltration and inflow (I/I) are terms used to describe the ways that ground water and storm water enter into dedicated wastewater or sanitary sewer systems. Sanitary sewer systems are designed to carry wastewater from toilets, dishwashers, sinks, or showers in homes or businesses. I/I add clear water to sewer systems, increasing the load on the systems, as well as increasing the cost of treatment.

identified as a major contributor of I/I. Repairs were made to these defective sewers by installing a cured-in-place liner and sealing 26 laterals. These repairs caused an average annual reduction of I/I of approximately 50,000 gallons per day (gpd). The I/I Removal, Phase I project is a continuation of routine I/I projects that have already been completed.

The Village nominated the three proposed projects for consideration to be financed with funds made available through the Water Pollution Control Loan Fund (WPCLF). The Village's projects were identified as being within the fundable range, with up to $1,481,600 in WPCLF assistance that may be available to the Village (see Section D). The Ohio Revised Code requires that an environmental review is completed prior to the award of WPCLF financial assistance. Ohio EPA has completed that environmental review, which is summarized in this document.

C. Project Description

The purpose of the three proposed projects is primarily to restore the structural integrity of the collection system and upgrade/replace old, failing equipment at the WRF. Through a Consent Decree effective August 26, 1997, Canal Winchester has a permanent injunction binding the community to prevent wet-weather bypasses and overflows from the wastewater plant and sanitary sewer system. High flows entering the wastewater treatment facility during wet-weather events have caused pass-through of solids at the Water Reclamation Facility. These wet-weather events have caused multiple instances in which the National Pollutant Discharge Elimination System (NPDES) permit limits were exceeded and reported to Ohio EPA. This work is part of the continued maintenance and replacement necessary to satisfy the conditions of the consent decree and to reduce the magnitude of the wastewater flows through the WRF during wet-weather events. The three projects are described separately below:

Infiltration and Inflow Removal, Phase I:

This project consists of the lining of approximately 9,700 feet of 1940s era leaking and deteriorating clay sewer mains, a deteriorating 30-inch diameter concrete trunk main, and 28 manholes in an area with extremely high ground water. This will eliminate I/I that is entering the sanitary collection system in these multiple locations (see attached map). An additional benefit of sewer relining is that it restores the hydraulic capacity of the sanitary sewer system.

The relining will be accomplished using a trenchless method called "cured-in-place pipe" (CIPP). Under this method, the sewer is cleaned and a resin-saturated felt tube made of polyester is inverted or pulled into the damaged pipe. Access to the sanitary sewers will be through the existing manholes. Next, hot water or steam is used to cure the resin and form a tight-fitting, joint-less and corrosion-resistant replacement pipe. Service laterals are restored internally with robotically controlled cutting devices. The rehabilitated pipe is then inspected by closed-circuit television. Little to no digging is involved in using trenchless techniques, making the process more environmentally friendly than the traditional "dig and replace" pipe repair methods.

Winchester Village Force Main Replacement / Relocation:

The existing 4-inch force main is degraded and restricted, causing longer pump runs and the possibility of leaks. This main has been serviced in the past and shown to be deteriorating and in need of replacement to prevent pumping and/or leaking problems. Additionally, the new force main would direct the flow of the lift station to another trunk main, which is more suitable to handle the flow. The re-direction of the force main will eliminate a hydraulic bottleneck in the system, and therefore eliminate backups in the sanitary collection system and basement flooding events.

The failing existing line of approximately 1383 feet will be replaced with a new shorter line to a stub in a different lift station tributary. The new line would be approximately 500 – 700 feet long. The majority of the new force main will be bored underground parallel to Tussing Ditch and under West Waterloo Street. Boring is a more environmentally friendly means of installing the force main, as opposed to open cut trenching techniques. Approximately 100 feet will be open cut (dug) running parallel to West Waterloo Street. This is a very minor segment of the force main replacement and should have little impact in an already developed area along the street (see attached map).

Water Reclamation Facility Influent Upgrades:

Over the last several years, the WRF has experienced multiple problems with clogging and control failures due to equipment that is old and losing efficiency. The current screen that filters the wastewater coming into the WRF has relatively large openings and has to be manually cleaned. This allows undesirable material, like rags, grit, and stringy materials, to enter the treatment plant and causes operational issues throughout the treatment processes from the build-up of material. Due to the on-going manual cleaning of the bar screen with a rake, the potential exists for sewer back-ups. The existing manually-cleaned coarse bar screen will be eliminated and replaced with a new automatic self-cleaning fine bar screen on the wastewater influent at the WRF. The opportunity to make this operation automatic is especially important during wet-weather events, when the system is flushed and all of the stringy and other undesirable materials fouls the bar screen. The combination of fouling of the bar screen and wet-weather flows creates the risk of a wet-weather overflow.

The four raw sewage pumps have had to endure conditions more severe than a normal application, since there is no rag, grit, or stringy material removal from the screen prior to the pumps. As a result, the pumps become plugged and lead to overheating, which shortens motor life. Additionally, the parts within the pumps are worn from the grit, and therefore diminish the life expectancy of the pumps. The four existing pumps will be replaced by non-clog sewage pumps with cooling independent of sewage flow. A fifth pump will be on-hand to serve as an emergency backup during construction, and will be used as necessary following the project.

The WRF utilizes four old variable-frequency drives (VFDs), which have been subject to numerous power outages and have failed many times over the years. It has been difficult to obtain replacement parts for the old units. Technological advancements have resulted in newer model VFDs that provide greater

reliability. The VFDs are also experiencing an unknown flaw in the programming that cannot be remedied, despite technical support. The four existing VFDs are to be replaced with new-technology units. The installation of four raw influent wastewater pumps and VFDs will eliminate on-going maintenance issues and will minimize the amount of time that the raw wastewater influent pumps are out of service. The existing pumps clog frequently, which can lead to potential sewage back-ups and overflows, as noted above. The pumps identified for use in replacing the existing pumps are a better application for raw sewage pumping and are therefore much more reliable. The VFDs will allow the pumps to "match" the amount of sewage coming from the collection system and will result in more consistent treatment because wastewater will be pumped consistently through the wastewater treatment plant. Therefore, the surges of wastewater being pumped into the treatment process will be eliminated.

The level controls within the WRF are nearing the end of their useful life and are in need of an upgrade to deal with high flow events. There are also major issues with the rags that are not being screened out, which obscure the accuracy of the level controls. The existing level sensor will be removed and replaced by a more accurate cathodic rod system.

The ventilation blower and ducts within the wet-well of the WRF are in need of modifications to meet OSHA compliance by preventing degradation of wet-well appliances by noxious gases. The ventilation blower and associated ductwork is to be upgraded to prevent future degradation of wet-well appliances by noxious gases.

D. Estimated Project Costs

The Village is eligible for the WPCLF small community interest rate, which is currently 2.75%. Below are the project costs and savings in total interest payments through the WPCLF versus financing at market rates (assume 4.33%).

Name of Project	**Total Project Cost**	**Total Estimated Interest Savings**
Infiltration and Inflow Removal, Phase I	$931,000	$184,431
Winchester Village Force Main Replacement / Relocation	$50,600	$10,024
Water Reclamation Facility Influent Upgrades	$500,000	$99,050
	$1,481,600 Total Cost	**$293,505 Total Savings**

E. Project Schedule

The Village of Canal Winchester is anticipating the receipt of funding through the WPCLF in December of 2010 to fund the proposed three projects. Construction of the projects will begin shortly thereafter, and will take approximately six months to complete.

F. Public Notification

The Village operates an annual program of sewer cleaning, inspection, and rehabilitation. Residents of the Village are generally aware of the inspections and improvements. The proposed projects were discussed with Village Council as part of the Capital Improvements Plan and to gain the necessary authorizations to proceed with the projects. The Village Council Meetings have provided opportunities for information dissemination and public participation. The Village also maintains a user friendly website (www.canalwinchesterohio.gov) where residents view information about future and current construction, water and sewer rates, ordinances, and Village Council meeting dates and materials.

Ohio EPA will issue a copy of it Limited Environmental Review (LER) decision and final Finding of No Significant Impact (FONSI) to interested parties. Supporting documentation for the LER decision is available for public inspection upon request at the following address:

Ohio EPA
Division of Environmental and Financial Assistance
50 W. Town Street
P.O. Box 1049
Columbus, OH 43216-1049

G. Planning Information

The following agencies have been given an opportunity to comment on the project planning information:

Ohio Environmental Protection Agency
Ohio Historic Preservation Office
Ohio Department of Natural Resources
Mid-Ohio Regional Planning Commission

We have not received any opposition or negative comments from these agencies regarding these projects.

H. Conclusion

The proposed projects meet the project type criteria for a Limited Environmental Review; namely, the actions are primarily for rehabilitation of existing facilities within a sewered community. The work for the projects involves either no or very little surface disturbance at the existing sites.

Furthermore, the projects meet the other specific qualifying criteria for a LER, as indicated below:

- They will have no significant adverse environmental effect, as the sewer rehabilitation for the I/I Removal project will use the environmentally-friendly trenchless techniques of sewer lining within the existing sewers, located primarily in the road rights-of-way. The Winchester Village Force Main Replacement/Relocation project will use boring instead of open cut construction for the majority of the work. The WRF Influent Upgrades project will take place within the WRF and is simply the replacement of old, faulty equipment. The planning activities for the projects identified no potentially significant adverse impacts on the quality of the human environment or on sensitive resources such as floodplains, wetlands, prime or unique agricultural lands, aquifer recharge zones, archaeological or historically significant sites, or threatened or endangered species;

- They do not require extensive specific impact mitigation, as the projects will only involve construction on a previously-disturbed sewer alignment, at the WRF, and in road rights-of-way;

- They will have no effect on high value environmental resources, as the projects will only affect previously-disturbed locations such as the WRF, roads and small discrete surface locations around existing manholes;

- They are cost-effective, as demonstrated in the planning information;

- They are not controversial actions, as the projects will not increase user costs; furthermore the projects are necessary investments in the Village's infrastructure that will improve wastewater conveyance, and reduce wet-weather overflows and basement flooding events;

- They do not create a new, or relocate an existing discharge to surface of ground waters, since the proposed projects do not include these features;

- They will not result in substantial increases in the volume of discharge or loading of pollutants from an existing source or from new facilities to receiving waters, since the projects are not designed for this purpose; and

- They will not provide capacity to serve a population substantially greater than the existing population, since the proposed projects are not designed for this purpose, the existing sewer's diameter will not be increased, and the WRF capacity will remain the same.

I. **For further information, please contact:**

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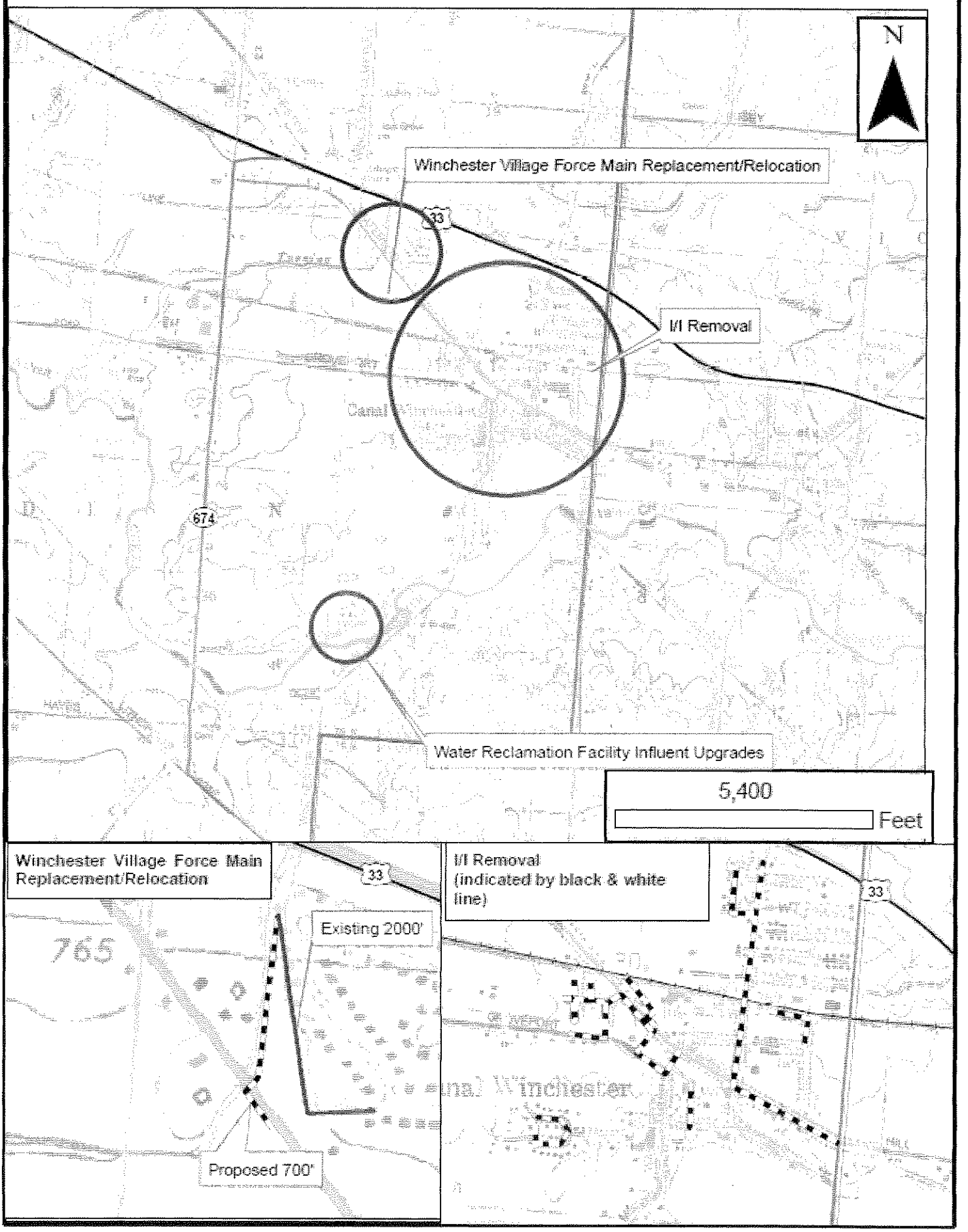
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Winchester Village Force Main Replacement/Relocation
33
I/I Removal
674
Water Reclamation Facility Influent Upgrades
5,400
Feet
Winchester Village Force Main Replacement/Relocation
Existing 2000'
Proposed 700'
765
I/I Removal
(indicated by black & white line)
33